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DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION

333 W. Nye Lane, Room 138
Carson City, Nevada 89706

February 11, 2003

Mr. Dave McCarthy
Atlantic Richfield Company
307 E Park Ave.
Anaconda, Montana 59711

SUBJECT: Draft Quality Assurance Project Plan for Yerington, Nevada

Dear Mr. McCarthy:

The Nevada Division of Environmental Protection (NDEP) has received and evaluated the **Draft Quality Assurance Project Plan**, dated December 5, 2002, regarding the continued environmental investigation of the Yerington Mine, located in Lyon County near Yerington Nevada. This office provides the following comments from EPA.

**EPA COMMENTS ON THE DRAFT QUALITY ASSURANCE PROJECT PLAN FOR
YERINGTON, NEVADA**

- 1) [General] Most elements required by QA/R-5 are not included in the subject document. Three of the four QA/R-5 groups of elements are not addressed, including Group A, Project Management; Group C, Assessment and Oversight; and Group D, Data Validation and Usability. Some elements required in Group B, Data Generation and Acquisition, are addressed. However, not all elements in Group B are included in sufficient detail, such as Quality Control and Data Management. The Group B elements Sampling Process Design and Non-Direct

Measurements are not addressed. It is recommended that the document be written to include all elements required in QA/R-5. If an element is not applicable, this should be stated in the QAPP.

- 2) Data quality objectives (DQOs) should be addressed in the QAPP. You may be able to incorporate the more general objectives from the approved Scope of Work.
- 3) The information provided in the QAPP concerning the analytical procedures is limited. It is recommended that the laboratory quality assurance plan, and/or appropriate SOPs, including QC acceptance criteria, be provided. Alternatively, Region 9 has prepared data quality indicator (DQI) tables for most common methods. These can be requested from the QA Office and, if necessary, modified to meet project needs.
- 4) Calibration of Field Instruments, Sections 2.1.1, 2.2.1, 2.3.1, 2.4.1, 2.5.1, and 5.4. It was not clear whether or not additional information regarding calibration of field instruments would be included in the work plans. Information that should be included in at least one planning document includes:
 - Nature of calibration standards.
 - Number of calibration standards and indication that these bracket the expected concentrations to be measured.
 - Criteria for initial calibration
 - C Frequency of drift check (usually one every 10 samples and at end of day)
 - C Criteria for drift check so that instrument can be recalibrated if drift (after the 10th sample) is too large, thus minimizing loss of data.

Note that all instruments (with the potential exception of temperature) should be checked with a drift standard. (Section 2.3.2 indicates that only the conductivity probe would be checked.) Additionally, redundant information should be stated once and then referenced in subsequent sections.

- 5) [Section 2.1.3, Sample Collection - Solids; Table 2-3, Summary of Sample Collection and Storage Parameters; Section 2.1.4, Sample Identification and Preservation - Solids] Section 2.1.3 describes the collection of samples for volatile organic compounds (VOCs) by capping the ends of core samples in tubes or compressing the sample into a container. Region 9 requires collection of samples for VOC analysis using a hermetically sealed sampling container, such as an EnCore sampler. Three discrete containers for each location are required. (Six discrete containers are required for samples designated for laboratory quality control.) A separate aliquot, if a glass jar or other appropriate container, should be provided for percent moisture determination. The Sample

Preservation subsection of Section 2.1.4 should also be revised to address preservation of soil samples collected for VOC analysis.

- 6) Table 2-3 specifies a 14 day holding time for soil samples collected for VOC analysis. Region 9 recommends a two day holding time unless the sample is frozen or preserved in methanol or with sodium bisulfate.
- 7) [Table 2-1, Groundwater Field Parameters] Table 2-1 specifies Standard Methods 212 for temperature analysis. The Standard Method for temperature is Method 2550.
- 8) [Table 2-3, Summary of Sample Collection and Storage Parameters] The maximum holding time for semi volatile organic compound (SVOC) analysis in water should be revised from 14 days to 7 days.
- 9) The footnote for holding time for metals analyses indicate a 24 day holding time for chromium VI. The holding time for hexavalent chromium should be revised to 24 hours. In addition, the sample collected for chromium VI should not be acidified as indicated in Table 2-3.
- 10) Channel Flow, Section 2.4.2, page 20. The document states A...the 6/10 method will be used for measuring flow rate...A reference for this procedure should be provided or the procedure should be attached.
- 11) Section 2.6.2, page 31. The document states The equipment rinsate blanks will be preserved...in the manner described in Sections 2.6 and 5.1. It does not appear that the reference to Section 2.6 is correct.
- 12) Blanks, Section 2.3.3, page 14 and Section 2.4.3, page 21. In Section 2.3.3, it appears that blanks and samples are collected similarly, i.e., containers are not rinsed for either blanks or samples. However, in Section 2.4.3, it appears that sample containers are rinsed for samples, but not for blanks. Blanks and samples should be treated the same. Additionally, it is unclear why containers for groundwater samples and surface water samples would be treated differently (rinsed for one and not the other). Clarification is needed.
- 13) Duplicates, Section 2.6.1, page 30. The document states In general, duplicate samples will be collected in the same manner as regular samples. If duplicate samples are collected in a different manner than regular samples, they are not true duplicates. Clarification is needed.

- 14) [Section 3.0, Laboratory Methods and Procedures] Section 3.0 states the laboratory monitors precision and accuracy through analysis of matrix spike (MS), matrix spike duplicate (MSD), and blank analyses. The criteria for these quality control (QC) samples should be documented in the QAPP. The QAPP should also provide acceptance criteria for initial calibrations, second source calibration checks, and laboratory control samples (LCSs).
- 15) [Section 3.1, Soil and Sediment Analysis; Section 3.2, Ground and Surface Water Analysis; Section 3.3, Air Analyses] A number of agricultural chemistry samples will be submitted. It is recommended that the specific analytical methods and sources for these methods be identified.
- 16) VOCs are not discussed in Sections 3.1 or 3.3, although VOCs are listed in Tables 3-1 and 3-4. It is recommended that all analyses that may be used be identified in Sections 3.1, 3.2, and 3.3.
- 17) [Table 3-2, Laboratory Methods and Detection Limits for Groundwater Analyses; Table 3-3, Laboratory Methods and Detection Limits for Surface Water Analyses; Table 3-4, Laboratory Methods and Detection Limits for Air Analyses] Tables 3-1 through 3-4 provide detection limits. It is recommended that action levels be provided so proposed detection limits can be evaluated in terms of project requirements.
- 18) Tables 3-2 and 3-3 indicate total and dissolved analyses will be performed for all inorganic analyses. However, as indicated in Table 2-3, only samples collected for dissolved metals will be filtered. Tables 3-2 and 3-3 should be clarified.
- 19) The footnote to Table 3-4 incorrectly defines ppm-r as parts per million by volume and XRF as x-ray fractionalization. These definitions should be corrected to ppm-v and x-ray fluorescence, respectively.
- 20) Note that the column which identifies the parameter or analyte in Table 3-4 also attributes ICP-MS or ICP-OES to the metals. However, the method column specifies XRF. This inconsistency should be resolved. In addition, Table 3-4 specifies TO-14/15 for the analysis of vanadium and zinc. However, TO-14 and TO-15 are organic analytical methods. The table should be corrected.

Accordingly, please provide the Draft Final Quality Assurance Project Plan which incorporates the above comments. This information must be received not later March 13, 2003, as per approved submittal schedule.

Should you have any questions or if I can be of any assistance, please do not hesitate to contact me at (775) 687-9376 or FAX (775) 687-6396. All future correspondence regarding this subject should be addressed to the undersigned.

Sincerely,



Arthur G. Gravenstein, P.E.
Staff Engineer
Remediation Branch
Bureau of Corrective Action

cc: Ms. Jennifer Carr, NDEP

Cc: Mr. Joe Sawyer, Project Manager, SRK Consulting, 102 Birch Drive, Yerington NV. 89403

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